BTeV Electronics and Software
Straw Detector

Straw Detector

May 31, 2001

aah

1st Set of Topics

- Urgent items needing to be completed and tested before the Baseline Review
  - Prototype Detector + Electronics + DAQ for Test Beam
    - Currently Plan is to use existing CDF COT boards (24 channels), and design a HV anode board.(C.Gingu)
    - (Would prefer to actually design a new FE board) (C. Gingu??)
    - We have a Camac Daq which will meet the Test Beam Needs.(aah)
  - Will the ASDQ Chip meet our requirements?
    - See above--Cosmic Ray test should give zero'th order info.

1st Set (cont')

- Can we buy our TDC?
  - Possibly use TDC developed for Compass (~$40/8 chan chip)
- Can we combine ASDQ+TC D+Serial OUT on a single Front End board?
  - Looks like this is under development. (Mark Bowden)
- Can the Front End be designed to meet our detector footprint?
  - I think so (it has to be so!) (C.Gingu)
  - Hardest part is the HV network with load resistor and blocking capacitor (and anode pins).

1st Set Straw Detector

- Straw material ?
  - Carbon loaded Kapton is current choice. (FNAL, UH, ...
- 1/2 View Layout
  - How to design module nearest beam pipe.(???Frascati?)
  - How many planes per view?(PK)
    - Proposal had 3 planes.
    - Will 2 planes work?
  - Will we use 4 mm and 8mm straws? (PK)
    - Proposal has only 4mm straws.
    - Use 8mm for low occupancy.
- Best Gas to use for aging/gas gain. (FNAL, UH)
- Results in Magnetic Field (SMU).

2nd Set of topics

- WBS
  - Very slow going. It is easy to bog down in details.
  - Some difficulty since Straw Collaboration is just coming together with the addition of the Frascati Group.
  - Will improve--it has to.
- WBS Dictionary
  - Not yet Started

WBS Number	WBS Activity Name	WBS A Descri	Ground Assump	Estir Sour	Basi Estir
1	**BTeV Experiment**			1 33333	
1.6	**Forward Tracker Straw Detector**				
1.6.1	**Straw Chamber Stations**				
1.6.1.1	Establish Station Requirements and Specifications				
1.6.1.2	Straw Chamber R&D (Includes Single Straw Prototype and Focus				
1.6.1.3	Prototype Straw Chambers				
1.6.1.4	Pre-Production Straw Chambers (Pilot Chambers)				
1.6.1.5	Common Tools for Straw Production				
1.6.1.6	Full Scale Straw Detector Production				
1.6.2	**Front-End Electronics and Interconnections to Sensors**				
1.6.2.1	Prototype Straw Front-End Electronics				
1.6.2.2	Pre-Production Straw Front-End Electronics (Was called "Intermediate Electronics Developm				
1.6.2.3	Production Straw Front-End Electronics				
1.6.2.4	Interconnections to Sensors (This may not be necessary if electronics is attached to				
1.6.2.5	Packaging, Powering, Monitoring, Cooling and Protection				
1.6.2.6	TDC Integrated Circuits (TDC ICs)				
1.6.3	**Mechanical, Gas and Calibration Systems**				
1.6.3.1	Gas System Mix, Monitors and Alarms & Interlocks (Tom C and Jim H will)				
1.6.4	**Other Support Systems (e.g., alignment system, laser pulser s**				
1.6.4.1	Temperature, Humidity and Barometric Pressure (Tom C)				
1.6.5	**Test Beam Studies**				
1.6.6	**Alarms and Limits Interface (to the Controls/Monitoring and Ti** (Tom C and)				
1.6.7	**Hardware and Software Specific To Straw Development and Te**				
1.6.8	**Forward Tracker Straw Detector Integration and Testing**				
1.6.9	**ES&H**				
1.6.10	**Transportation to and Installation and Testing at C0**				
1.6.11	**Forward Tracker Straw Detector Task Management**				
1.6.11.1	Develop Task Management Plan				
1.6.11.2	Develop Task Production Plan				
1.6.11.3	Sign Contracts (MOU's??)with Production Sites.				
1.6.12					
end					